

providing a key blank having a shank of which the basic form in the perpendicular cross-sectional plane of the shank, exclusive of any possible profile grooves or corresponding grooves extending over the shank of the key, is substantially rectangular except for at least one bevel surface for providing combination surfaces at at least one corner, and

cutting at least first and second combination surfaces in said one bevel surface of the shank, the first and second combination surfaces corresponding to the first and second code locking discs respectively, wherein the first combination surface differs from the second combination surface with respect to the combination of the angle of the cut and the length of the cut in said one bevel surface.

29. (New) A method according to claim 28, wherein the shank has an additional bevel surface diametrically opposite said one bevel surface and the method comprises cutting at least first and second combination surfaces in said additional bevel surface, the first and second combination surfaces in said additional bevel surface corresponding to the first and second code locking discs respectively.

REMARKS

Claim 1 as now amended specifies that the first discrete counter surface bounding the key opening of the first code locking disc corresponds to a smaller turning angle of the key and further specifies a second discrete counter surface corresponding to a larger turning angle. This proposed limitation clearly distinguishes over GB '119, in which the two counter surfaces identified by the examiner correspond to equal turning angles of the key.

It is therefore submitted that claim 1 is patentable. Since claim 1 is patentable, it follows that the dependent claims 2-11 also are patentable.

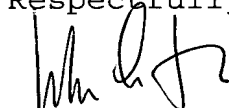
Claim 20 has been amended to recite first and second combination surfaces corresponding to the first and second code locking discs respectively and having the first and

second combination values respectively, and further states that the first combination surface differs from the second combination surface with respect to the combination of the angle of the cut and the length of the cut in said one bevel surface. This combination of features renders the key structure defined in claim 20 uniquely suitable for use with the lock of claim 1. Accordingly, applicant submits that claim 20 is directed to the same invention as claim 1 and that no requirement for restriction should be made as between claims 1-11 and claims 20-27.

Claim 28 is directed to a method of making a key for a combination according to claim 1. Claim 28 is directed to the same invention as claim 1 since the method recited in claim 28 results in a key that is uniquely suited for the lock recited in claim 1.

The key blank recited in claim 28 has the structure recited in claim 12 and the product of the method defined in claim 28 is the key defined in claim 20. Accordingly, claim 28 links claims 12 and 20 and shows that claim 12 is directed to the same invention as claim 1.

Respectfully submitted,



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PATENT

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In re Application of

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Art Unit: 3627

Application No: 09/405,436

Examiner:
L. Gall

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For: CYLINDER LOCK-KEY-COMBINATION

SCHEDULE OF CLAIM AMENDMENTS

Claims 1, 4 and 20, rewrite as follows:

1. (Twice Amended) A cylinder lock and key combination comprising:

a lock body,

a turnable lock cylinder located inside the lock body and having an axial slot,

a set of code locking discs located inside the lock cylinder, each locking disc having at least one peripheral notch and a key opening and being turnable in the lock body in a first turning direction by application of turning force to a counter surface bounding the key opening, each locking disc having an opening position in which its peripheral notch is at the position of the axial slot in the lock cylinder, such that when all the locking discs are in their respective opening positions the peripheral notches form a uniform channel at the position of the axial slot, the key openings of at least first and second code locking discs each being bounded by at least two discrete counter surfaces such that the first code locking disc can be turned in said first turning direction by application of turning force to any one of said discrete counter surfaces of the first code locking disc and the second code locking disc can be turned in said first turning direction by application of turning force to any one of said discrete counter surfaces of the second code locking disc,

a locking bar having a locking position in which it prevents turning of the cylinder relative to the lock body and a releasing position in which it is received in the channel formed by the peripheral notches of the locking discs and releases the cylinder for turning relative to the lock body, and

a key insertable in the lock when the locking discs are at an initial position, the key having a set of combination surfaces

corresponding respectively to the locking discs, for engaging a counter surface of each locking disc and applying turning force thereto when the key is inserted in the lock and is turned in the first turning direction, so that the locking discs are turned in the first turning direction to their respective opening positions,

and wherein the combination surface corresponding to said first code locking disc is provided with a first of at least two combination values and the combination surface corresponding to said second code locking disc is provided with a second of said at least two combination values, and the first and second combination values are such that the first code locking disc is turnable in the first turning direction by a key of which the combination surface corresponding to the first code locking disc has either said first combination value or said second combination value and the second locking disc is turnable in the first turning direction by a key of which the combination surface corresponding to the second locking disc has either said first combination value or said second combination value, but only a key of which the combination surface corresponding to the first code locking disc has the first combination value and the combination surface corresponding to the second locking disc has the second combination value is able to turn the first and second code locking discs to their respective opening positions.

and wherein a first of said discrete counter surfaces bounding the key opening of the first code locking disc corresponds to a smaller turning angle of the key and a second of said discrete counter surfaces corresponds to a larger turning angle.

4. (Amended) A cylinder lock and key combination according to claim 1, wherein [a first of said discrete counter surfaces corresponds to a smaller turning angle of the key and a second of said discrete counter surfaces corresponds to a larger turning angle and] the second counter surface bounding the key opening of the first code locking disc extends substantially to the central normal (E) of the central axis (D) of the key opening.

20. (Amended) A key for a combination according to claim 1, [wherein] the key having a shank of which the basic form [of a shank of the key] in the perpendicular cross-sectional plane of the shank, exclusive of any possible profile grooves or corresponding grooves extending over the shank of the key, is substantially rectangular

except for at least one bevel surface for providing combination surfaces corresponding to the code locking discs, said one bevel surface [provides] providing at least [one selectable] first and second combination [surface, and the value of any other combination surface is determined on the basis of] surfaces corresponding to the first and second code locking discs respectively and having said first and second combination values respectively, and wherein the first combination surface differs from the second combination surface with respect to the combination of the angle of the cut and the length of the cut [surface of the cuts to be made] in said one bevel surface.